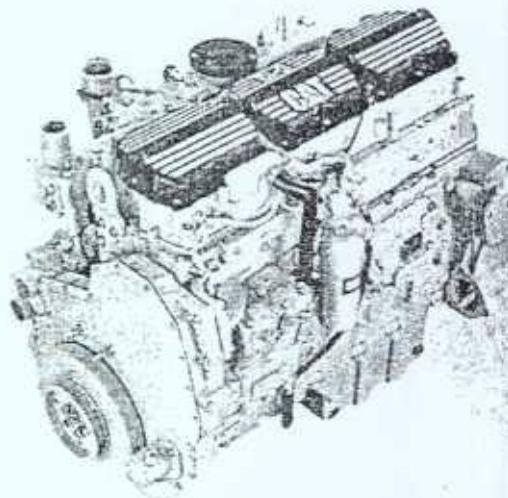


900,000
MILES
IS JUST THE
BEGINNING

RELIABLE PERFORMANCE STARTS WITH CAT® C-12 TRUCK ENGINES



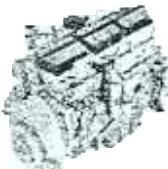
HARNESS THE POWER

CATERPILLAR®



THE PROOF IS IN THE PARTS

Since its introduction, the Cat C-12 Truck Engine has offered the performance and durability of a heavyweight engine in a lightweight, fuel-efficient package. The tear-down and inspection of Cat C-12 Truck Engines with more than 900,000 miles provides undeniable proof of this lasting quality and performance.



A REAL WORLD EXAMPLE OF THE DURABILITY AND LASTING PERFORMANCE OF THE CAT C-12.

Getting the job done In 1996, the owners of a large Midwestern truck fleet began looking for an engine with plenty of power to pull hills hauling 80,000 lbs. with 53 ft. trailers. The Cat C-12 was specified because it had more than 400 hp capability and only weighed 2,070 lbs. It allowed each truck to carry nearly 800 lbs. of additional payload when compared with competitive engines at the same horsepower rating.

The road to reliability One-hundred trucks took to the road equipped with Cat C-12 Engines. Cat maintenance guidelines were closely followed, including the use of a CH-4 Oil and Cat Extended Life Coolant [ELC]. After 915,480 hard-driven miles [18,929 hours] at an average speed of 62.5 mph and an average load factor of 56 percent, one of the engines was chosen at random and dynamometer tested. Throughout the entire operating range, it exceeded performance baseline standards for actual wheel horsepower.

More miles to overhaul Following in-chassis testing, the engine was torn down, inspected and subjected to precise measurement of wear and aging. Minimal wear on major engine components indicated that at least 200,000 more miles were possible before an overhaul would be necessary. Wear occurred in a consistent and predictable manner, indicating superior design and manufacturing criteria.

So, in addition to offering the best payload-to-weight ratio in the industry, the Cat C-12 is built to last longer with fewer repairs and lower overall operating costs. The photographs that follow provide visible proof of this exceptional durability. }

DYNAMOMETER TEST RESULTS

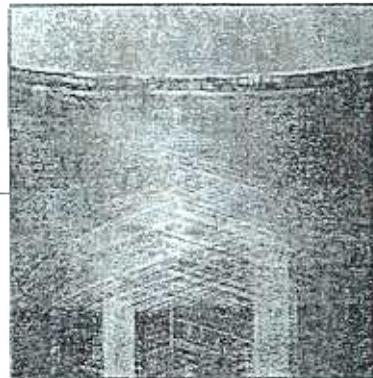
	ENGINE RPM				
	1745	1700	1600	1400	1200
Actual Wheel HP	376	362	383	372	331
Performance Baseline	334	338	342	328	289

**ENGINE SPECIFICATIONS, MAINTENANCE
AND DRIVING CONDITIONS**

Advertised Horsepower..... 430 hp
Total Distance..... 915,480 miles
Total Time 18,929 hours
Idle Time 4,285 hours [22%]
Average Speed 62.5 mph
Load Factor 56%
High RPM Operation
[above 1600 RPM]..... 59.3%
Oil Change Interval 20,000 miles
Average Add Oil Less than 1.5 quarts
between changes
Cat Extended Life Coolant Fill At 200,000 miles

Here's where superior engineering and

Cylinder Liners (Inside)



Original cross-hatch pattern still present over most of the piston travel area.

- An average of less than 1.5 quarts of oil added between 20,000 mile oil changes
- Projected additional life 200,000 miles

**Steel Piston Crowns
and Piston Pins**



No measurable wear on ring land area

- Very little wear on pin bushing
- No limits on additional life

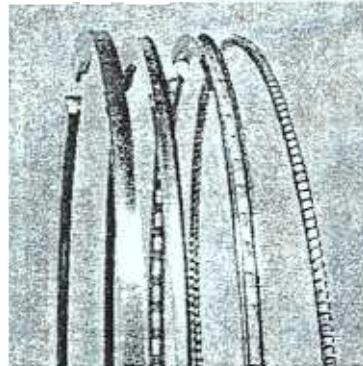
Piston Skirt



Virtually no wear on piston skirts

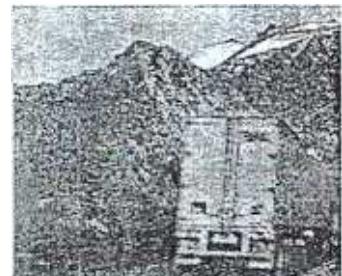
- No limits on additional life

Piston Rings



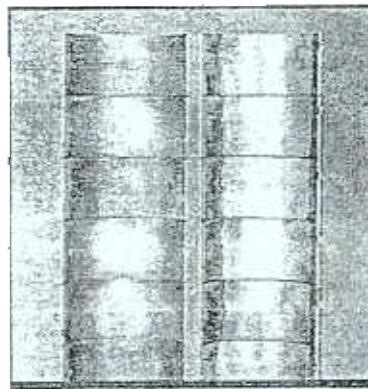
Even, full face wear of plasma coating

- No signs of flaking
- Projected additional life 200,000 miles



manufacturing really pay off

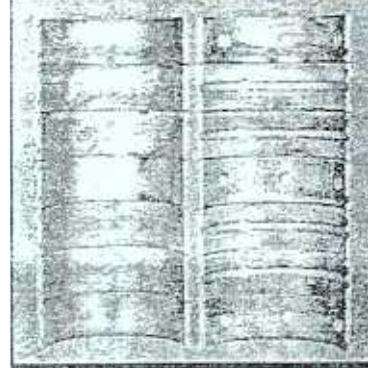
Rod Bearings



Only overlay was worn

- Ability to embed debris maintained
- Wear into nickel layer, which has excellent wear properties
- Projected additional life 200,000 miles

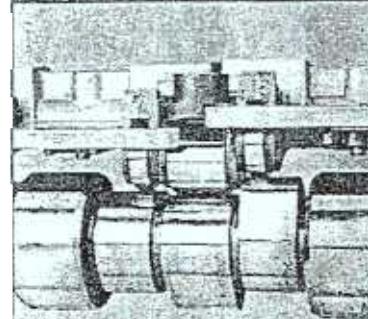
Copper-Lead Main Bearings



Smooth, consistent wear

- Projected additional life 200,000 miles

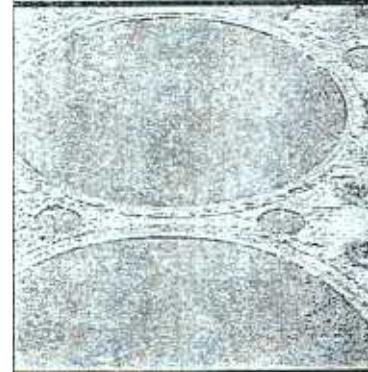
Cam and Cam Followers



Smooth, even wear on all lobes and rollers

- No signs of flaking
- Wear indicates no limits on additional life

Head Gasket



Original gasket at time of teardown

- Excellent fire ring integrity
- No limits on additional life



Look to the parts for proof

Valve Stem Tops

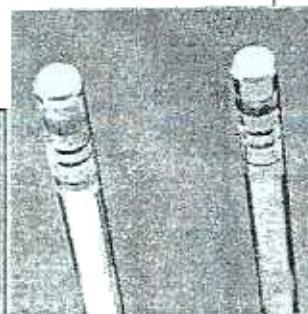
Injector



Original injectors
at time of
teardown

Good spray
pattern maintained

No limits on
additional life



Minimal
measurable wear

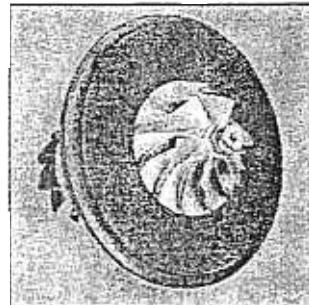
- Wear indicates no limits on additional life



- Cross section of valve shows minimal valve face wear
- Wear indicates no limits on additional life

Valve Cross-section

Turbocharger



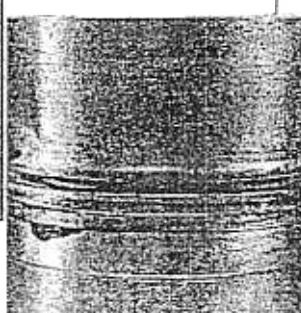
Original at time
of teardown

Minimal wear to fins,
shaft or bearings

Wear indicates no limits
on additional life

Cylinder Liners

[Outside]



• No measurable
pitting of liner
in coolant or
seal areas
[a benefit of Cat ELC]

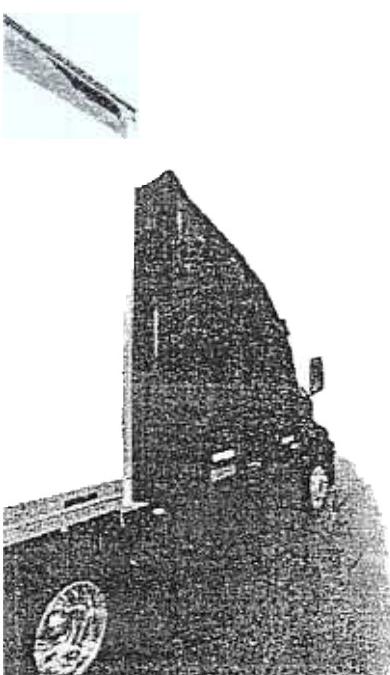
- No limits on
additional life

Thermostat & Housing



• No deposits or
rust on thermostat
or housing
[a benefit of Cat ELC]

No limits on
additional life



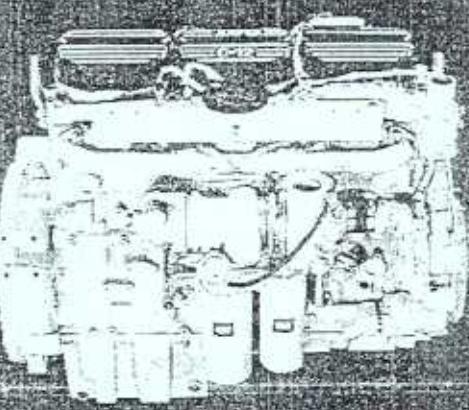
Mile after mile of value

CAT ELC EXTENDS LIFE, REDUCES REPAIRS

Long engine life is the result of strict compliance with recommended maintenance schedules and products, including Cat Extended Life Coolant (ELC). This specially formulated organic coolant reduces maintenance time and cost by eliminating the need for regular addition of Supplemental Coolant Additives. Coolant change is recommended at 600,000 miles (instead of 300,000 for conventional coolants), with only one addition of Cat Extender at 300,000 miles. That's more than twice the effective life of regular coolant without sacrificing performance or protection.

The engine described in this report was filled with Cat ELC at 200,000 miles (ELC was not factory fill at the time the engine was manufactured). The choice of coolant was critical in preventing rust, corrosion and deposits throughout the engine and in minimizing cylinder liner pitting. Use of Cat ELC also extends water pump seal life.

START SOMETHING THAT LASTS



THE CAT C-12

Thousands of drivers
put the Cat C-12 to the

test every day. Whether it's a torturous load on an uphill climb or a cruise on the open road, the Cat C-12 delivers maximum payload potential and economy with the best horsepower-to-weight ratio in its class.

For a single truck or a large fleet, start with a better-built engine and then maintain it with performance-matched parts and dealer services. When it's engineered and manufactured like the Cat C-12, you can count on the best return on your investment.

Visit your Cat Dealer or truck dealer for complete specifications on the Cat C-12. For the location of the nearest dealer, call 800-447-4986 or visit our website at www.cattruckengines.com.

CATERPILLAR®

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The Driving Value

A SUCCESSFUL COMBINATION

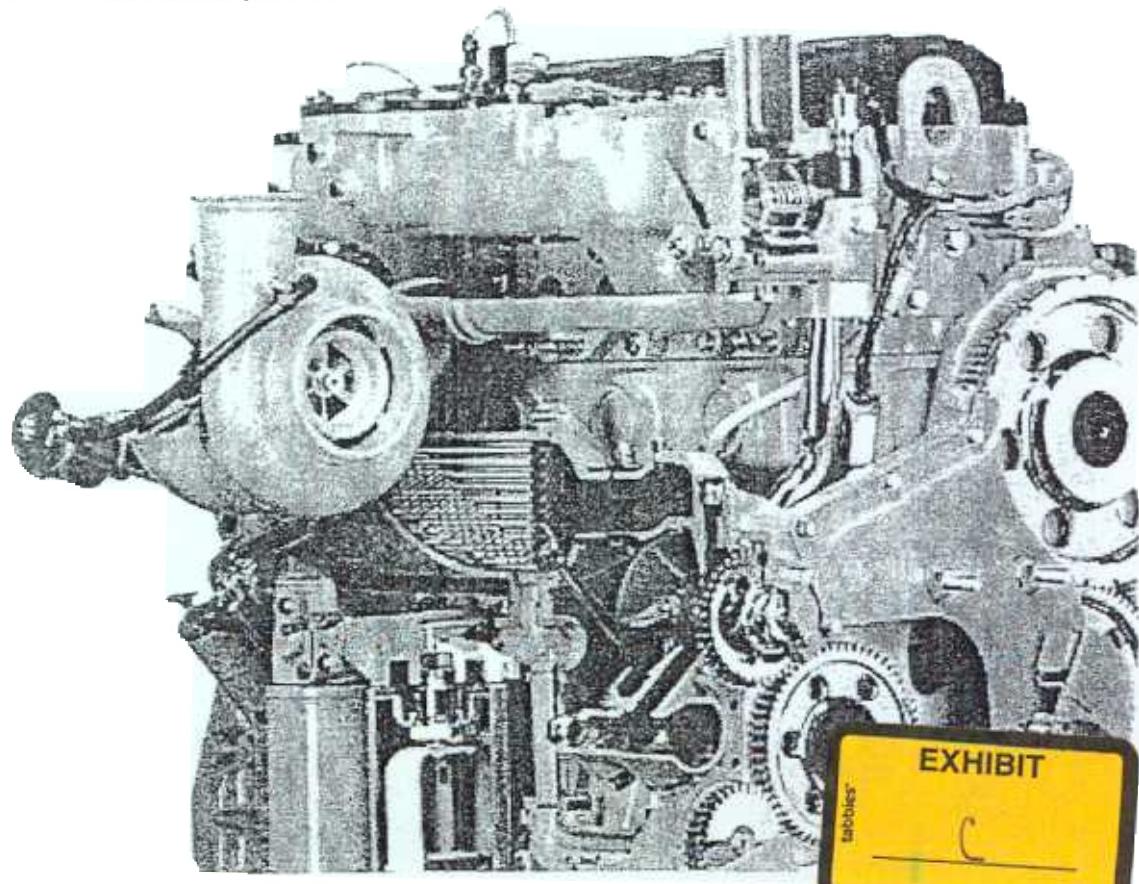
The Cat® C-12 Truck Engine successfully combines hard-working power and world-class efficiency with leading-edge electronics to provide top performance in a low-weight design. And, like all heavy-duty Caterpillar truck and bus engines, the C-12 offers superior fuel economy, reliability and durability, which equates to lowest cost of ownership. Advertised power ranges from 335 hp (250 kW) to 430 hp (321 kW) at 1800 or 2100 rpm. Peak torque ranges from 1350 lb-ft (1830 N·m) to 1650 lb-ft (2237 N·m). It's a driver's engine in the true Caterpillar tradition of providing outstanding hill climbing power, even with maximum gross loads.

A MEASURABLE DIFFERENCE

Weighing only 2,070 lb (940 kg), the C-12 offers the best power-to-weight ratio of any engine in its class. In fact, compared with other diesel engines in its horsepower range, the C-12 offers nearly 600 lb (272 kg) of potential additional payload that can substantially affect the bottom line of your business.

The Cat C-12 weighs...

- 540 lb less than the 12.7L
- 580 lb less than the ISX
- 220 lb less than the E7
- 370 lb less than the VE-D12

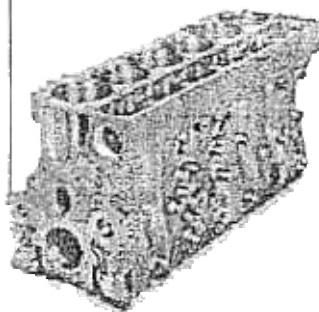


In Fleet Power

Rugged Building Blocks

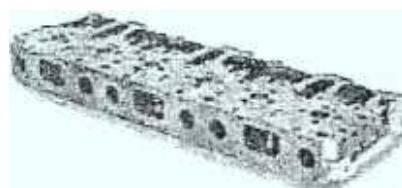
CYLINDER BLOCK

Engine durability begins with its foundation — the cylinder block. The cylinder block of the C-12 is made from 32,000 psi (220 480 kPa) minimum strength cast iron. It is a single-piece, deep-skirted design, and provides a solid base for the durability you require in today's trucking business.



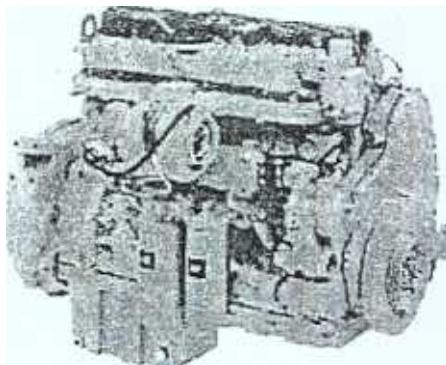
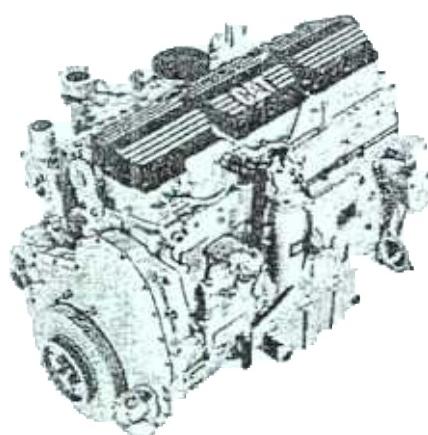
ONE-PIECE CYLINDER HEAD

The cylinder head is designed for maximum breathing, which helps assure excellent fuel efficiency. The cylinder head is a one-piece, stress-relieved, gray-iron casting with four valves per cylinder. Robust intake and exhaust valves are equal in size to those found in larger displacement engines, aiding air flow and providing excellent reliability. Serviceable stainless steel injector sleeves, press-fit into the head, house the unit injector. And, the injector seats on the head rather than on the sleeves to help ensure reliability, durability and serviceability.



PISTON

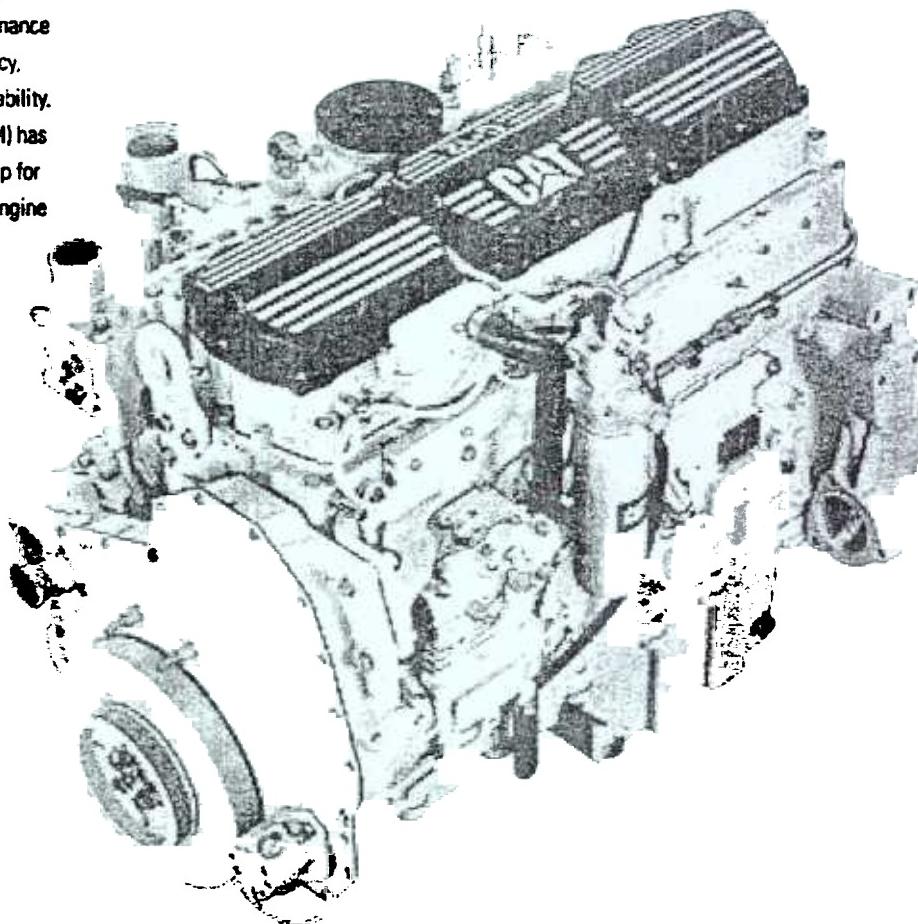
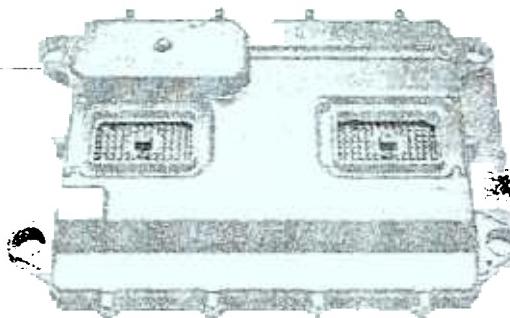
The piston is a two-piece articulated design consisting of a forged steel crown for maximum strength and a cast aluminum skirt to reduce weight. The aluminum skirt runs cooler than conventional pistons, allowing a closer fit to the cylinder liner and providing longer life.

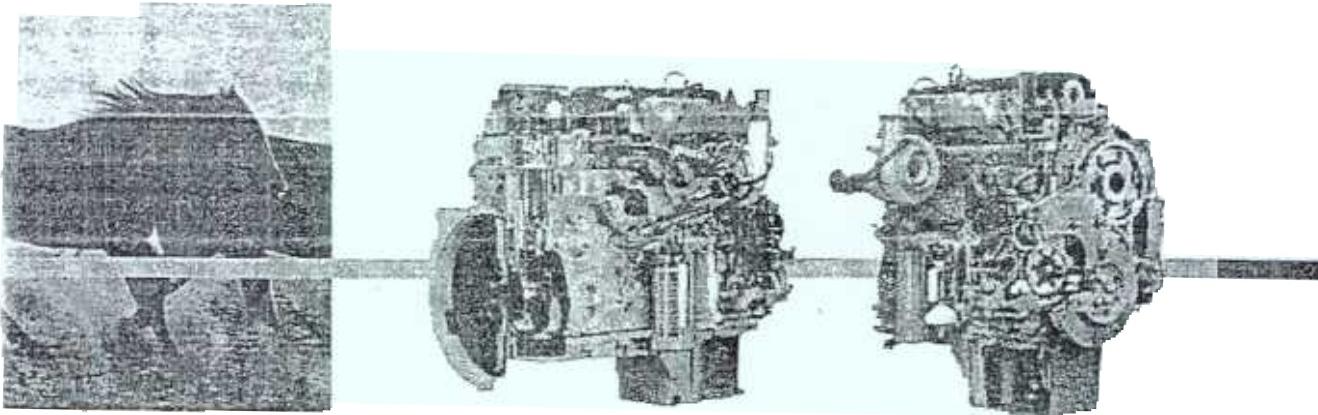




ADEM 2000

The ADEM 2000 (Advanced Diesel Engine Management) system works as the "brain" of the engine's control system, responding quickly and precisely with each of its integrated systems. High-powered microprocessors reduce calculation times for critical engine control parameters, such as metering and timing of fuel, air management, diagnostics, and preventive maintenance intervals. This benefits fuel efficiency, performance, response and serviceability. The Electronic Control Module (ECM) has a real time clock with battery backup for date and time stamping of critical engine conditions, allowing for quick and easy engine diagnosis.





Sophisticated Electronics

The award-winning ADEM 2000 electronic control system on the Cat C-12 Truck Engine is sophisticated, fast and dependable. Offering a full range of programmable features, the C-12 allows owners to better manage and control their equipment and provides feedback to drivers, for maximum profitability.

SOFTCRUISE SPEED CONTROL

The Cat SoftCruise speed control is available as a programmable option. On gently rolling roads, the Cat SoftCruise speed control modulates fuel delivery above and below the cruise set speed to eliminate abrupt cutoffs in fuel delivery. The system allows for a 5-mph "soft" window, 2.5 mph above and below the set cruise speed. This allows the truck to increase speed slightly while going downhill to warm up the turbocharger, providing quick boost and improved engine response on the next hill. By maintaining consistent cruising speeds, this feature improves fuel mileage, reduces drivetrain wear and reduces driver fatigue. A "bump" feature allows drivers to increase speed in one-mile-per-hour increments.

ENGINE MONITORING SYSTEM

Caterpillar electronics also provide a state-of-the-art Engine Monitoring System which monitors oil pressure, coolant temperature and coolant level (requires OEM sensor). It can be programmed four different ways to provide the level of control required for a particular operation.

- Off – no monitoring
- Warning – alerts driver to take action to avoid engine damage
- Warning/Derate – alerts driver and derates engine
- Warning/Derate/Shutdown – automatically shuts the engine down if one of the monitored conditions exceeds a predetermined setting

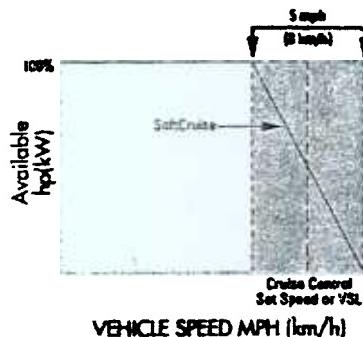
VEHICLE ACTIVITY REPORT

This report provides a comprehensive summary of the vehicle's operation. Beginning and ending times of each idle, running time, PTO, and off periods are all logged and displayed in an easy-to-read chart. Using the Vehicle Activity Report provides tremendous information, allowing for better control of the fleet's operation.

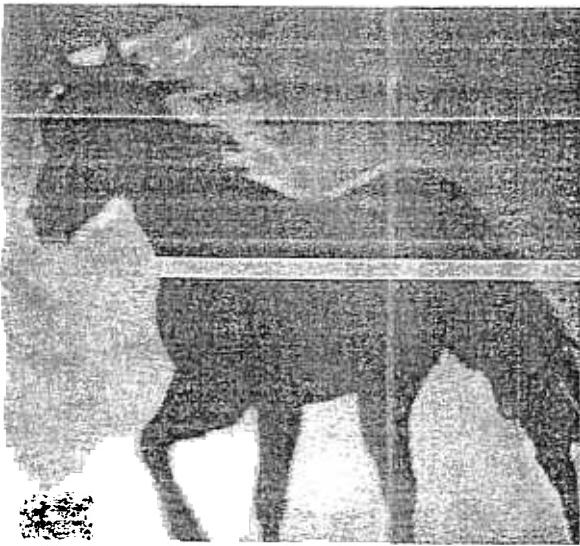
POWER TAKE-OFF

For applications that require the use of a power take-off (PTO), Caterpillar electronics provide a full range of programmable options, such as torque limiting and setting the maximum engine rpm at which the PTO will operate. Another option for applications that need to run PTOs at low rpm is programming the fan to engage whenever the PTO is operating. This will prevent thermostatically-controlled fans from suddenly engaging, slowing the engine slightly and disrupting PTO operation. An optional rear-mounted (flywheel) PTO is also available.

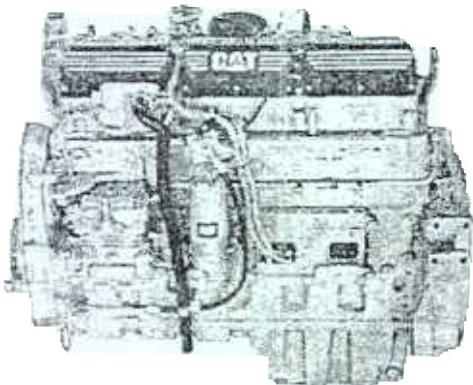
SoftCruise Control



SoftCruise control provides a 5 mph window centered around the cruise set speed. The cruise speed is limited from 2.5 mph below the cruise set speed at full load, to 2.5 mph above the cruise set speed at no load.

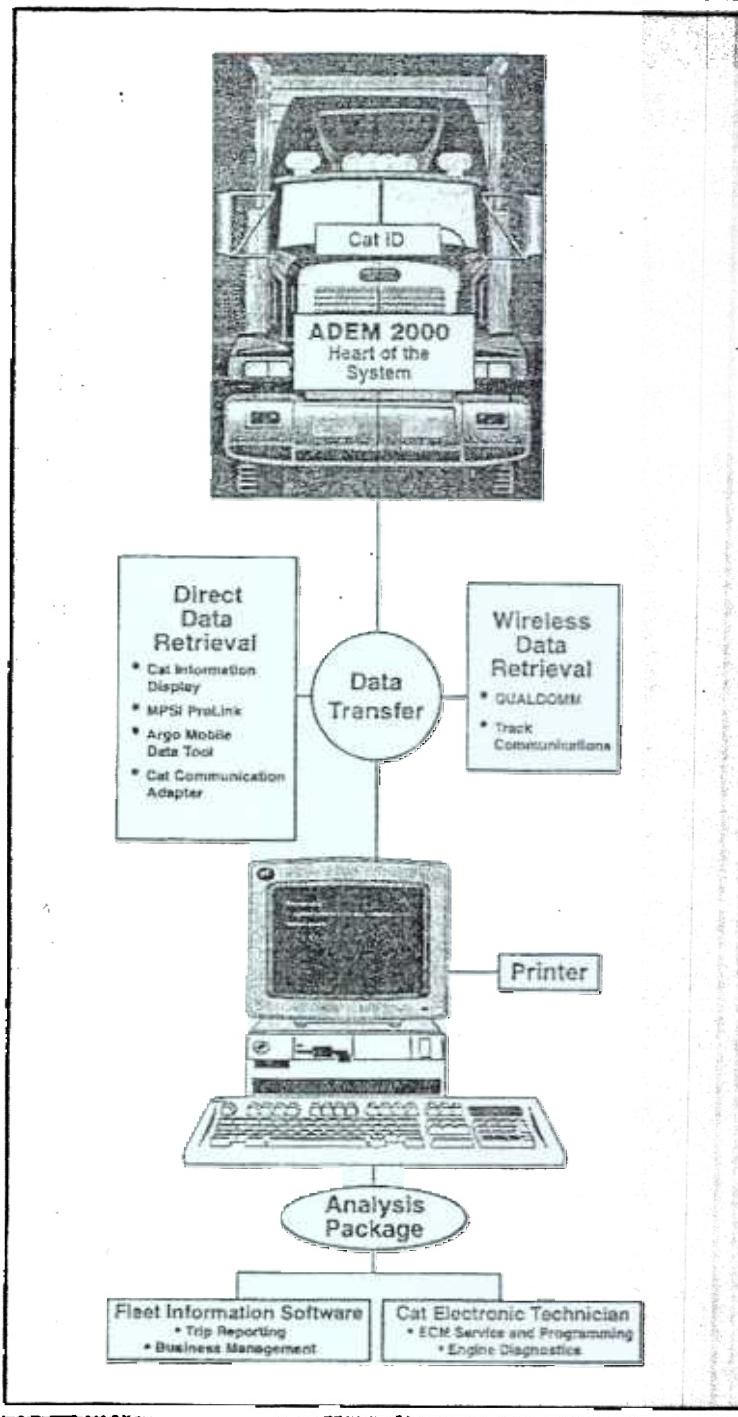


One of the most important things about engine electronics today is the tremendous amount of information that can be stored and retrieved from the ECM. Not only will this information enhance your ability to manage equipment and drivers, but it will also help you take better care of your equipment. We call it the Caterpillar Electronic Fuel Management System. This system offers three ways to control fuel consumption and reduce overall cost of operation: programmable engine features for the road, a diagnostic package in the shop, and an electronics partner at the office.



Sophisticated

CAT ELECTRONIC FUEL MANAGEMENT SYSTEM



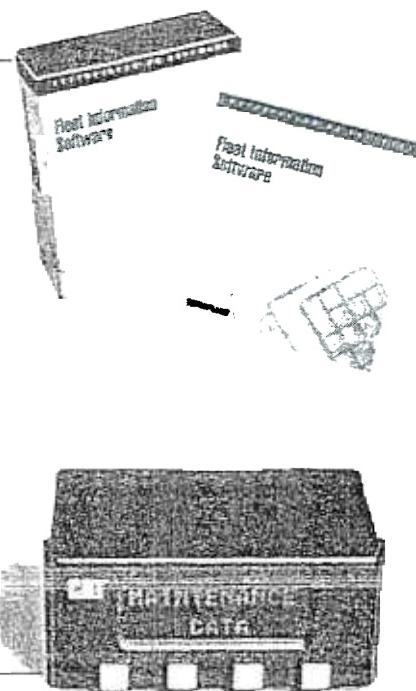
Fleet Management

FLEET INFORMATION SOFTWARE

With Caterpillar's unique Fleet Information Software (FIS) system, fleet managers can retrieve data and analyze how the engine has been operating. Data stored in the engine's ECM can be downloaded with industry-available tools, such as the recommended Argo Mobile Data Terminal; or linked directly to a PC through a wireless communications system.

FIS features:

- Ranks trucks by mpg or idle time
- Flags trucks with unacceptable data such as mpg, idle time, total fuel and driving speed
- Reports truck time spent at various rpm and mph conditions



CAT ID

The Caterpillar Driver Information Display (Cat ID) allows a driver to navigate through a variety of information menus to acquire visible feedback on engine operating conditions, such as miles per hour, gallons of fuel used, average miles per gallon, oil pressure, or coolant temperature. The driver can inform the engine's computer when crossing a state line or Canadian province, and the computer will begin tracking and recording data during travel in that next state or province. Cat ID can also display critical or important fault codes as they happen, with a number and easy-to-read description of the fault. If you prefer to run without a dash display, dash warning lights that flash codes are still provided.

THEFT DETERRENT

One of the unique features accessible through the optional Cat ID is a theft deterrent capability. When activated by the driver, the feature requires a driver to enter a password before the engine will start.

CAT DRIVER REWARD PROGRAM

Driver Reward is an exclusive driver incentive program that allows you to recognize and reward excellent drivers for staying within the fuel-efficient operating limits that you determine. Driver Reward gives you the information needed to manage fuel costs, while rewarding drivers' performance based on factors they can control, such as idle time and vehicle speed.

Implementing the Driver Reward program is simple. Once you determine the fuel-efficient operating goals, you then allow Cat electronics to do the rest, tracking drivers' performance and calculating rewards. Rewards can be either additional vehicle speed or a "points" system that allows you to recognize excellent driving within your fleet.



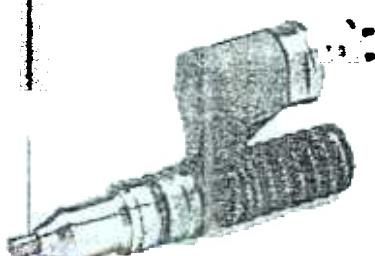
SUPERIOR FUEL ECONOMY

The Cat C-12, with its low weight and efficient design, really pays off at the pump, delivering best-in-class fuel economy. The C-12 proved the savings in several recent fuel tests. Results showed the following:

- C-12 0.4% to 3.9% better than competition in SAE Type II fuel test with a major national fleet.
- C-12 3.4% to 7.4% better than competition in SAE Type I fuel test with a major national leasing company.
- C-12 4.13% better than competition in SAE Type IV fuel test with a large Canadian carrier.

LOWEST COST OF OWNERSHIP

The C-12 design is simple and provides significant cost savings versus competitive engines of similar size or horsepower. In fact, the C-12 can provide up to 42 percent savings versus competitive models on routine maintenance over the life of the engine, following manufacturer's recommended PM requirements. And, based on analysis of comparable parts costs, the C-12 has lower costs at overhaul time, as well. That's real value—whether you own one truck or a large fleet of trucks.





In-Frame Overhaul Cost Comparison*

C-12 Versus The Competition

	C-12 Savings
Volvo VE-D12	+ 37%
Cummins ISM	+ 20%
Cummins N14+	+ 8%
Detroit Diesel Series 60	+ 4%

* Parts only, based on published guidelines
– effective 9/99 pricing.

Scheduled Maintenance Costs*

C-12 Versus The Competition

(Based on 800,000 miles of operation)
15,000 Mile Oil Change Intervals

	C-12 Savings
Cummins N14+	+ 42%
Cummins ISM	+ 31%
Detroit Diesel Series 60	+ 14%

* Parts and labor based on published PM guidelines
– effective 9/99 pricing.

Note: C-12 normal oil change interval is 20,000 miles.

N14+ normal oil change interval in O & M Guide is 10,000 miles.

Series 60 publishes normal oil change interval as 10,000 miles.

ALL CAT ENGINES COMPATIBLE WITH EXTENDED LIFE COOLANT

Since its introduction, the Cat C-12 Truck Engine has offered the performance and durability of a heavy-weight engine in a lightweight, fuel-efficient package. The teardown and inspection of engines with more than 900,000 miles provides undeniable proof of this lasting quality and performance. (See brochure titled "900,000 Miles Is Just The Beginning," Cat form #LECT0013).

Parts and service support when and where it's needed

When it comes to keeping you operating in top form, Cat backs you best with the industry's most responsive service network. Outstanding service, paired with Caterpillar parts, will help you get maximum life and performance from your Cat truck engine.

With more than 2,500 authorized Caterpillar service locations across North America, you can be assured of convenient access to Caterpillar parts and service. Superior quality and greater value are what sets Caterpillar product support above the competition. After investing in a Cat truck engine, sticking with Cat parts and service can be the second most profitable business decision you'll make.

For a free copy of the 2000-2001 Caterpillar Truck Engine Parts and Service Directory, call 1-800-447-4986. Form#LEKT4302-09.



ACCESS TO THE INFORMATION YOU NEED

Engine technology is constantly changing. That's why Caterpillar provides 24-hour technical assistance just a toll-free phone call away. Call 1-800-447-4986 or e-mail us at CALL_CAT@CAT.com. You'll be able to talk to a trained expert who can help you keep your trucks on the road making money. Or visit our Web site at <http://www.cattruckengines.com>.

FLEXIBLE WAYS TO PROTECT YOUR INVESTMENT

Caterpillar has a 2-year/unlimited mileage standard warranty for heavy-duty engines, as well as an extended warranty on major components up to 5 years/500,000 miles.* Plus, if you want guaranteed, fixed maintenance costs, the Cat Truck Owner Protection Plan (TOPP)* can be structured almost any way you want to fit your business. Programs are available with a fixed cost of less than one penny per mile.

*See your dealer for full details and costs.



CAT C-12 CUSTOMER BENEFITS

- Lightweight, high performance. More payload, more productivity. Drives like a 14-liter engine.
- Demonstrates 3 to 7 percent better fuel economy versus competitors. Lower fuel costs.
- Maximum capabilities of 445 hp and 1650 lb-ft of torque. Excellent high torque rise for driver-pleasing performance.
- Incorporates 14-liter design philosophy. Conservative B50 life of 900,000 miles, for excellent durability and long life-to-overhaul.
- Wide selection of ratings for any on- or off-highway applications. Application flexibility.
- Common iron set, for excellent horsepower uprate capability at trade-in time. For higher residuals.
- Lower maintenance and overhaul costs versus competitors. Lower cost per mile.

HARNESS THE POWER

CATERPILLAR®

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Supersedes LECT8182